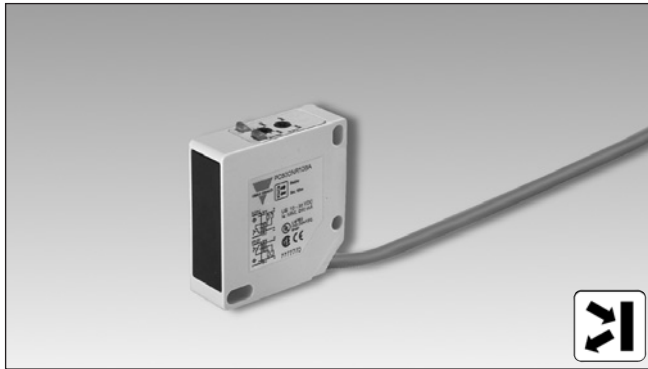


# Photoelectrics

## Diffuse-reflective, Relay Output

### Type PC50CND20RP

CARLO GAVAZZI



- Range: 2 m
- Adjustable sensitivity
- Modulated, infrared light
- Supply voltage:  
12 to 240 VDC and 24 to 240 VAC, 50/60 Hz
- Output: Relay 3 A, 30 VDC, 240 VAC
- Make and break switching function
- LED-indication for output ON, signal stability and supply ON
- Protection: reverse polarity, transients
- High degree of EMC



## Product Description

The PC50CND is a general purpose diffuse-reflective sensor in a compact squared 17 x 50 x 50 mm reinforced PC/ABS-housing. It is useful in applications where basic sensors provide adequate

sensing performance. The long sensing range in addition to sensitivity adjustment gives a very flexible sensor. Light and dark operation is switch selectable.

## Ordering Key

**PC50CND20RP**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____

## Type Selection

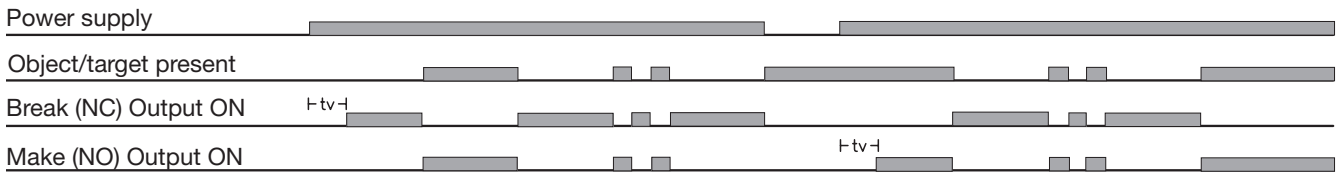
Housing W x H x D	Range (S <sub>n</sub> )	Ordering no. Make and break switching
17 x 50 x 50 mm	2 m	PC 50 CND 20 RP

## Specifications

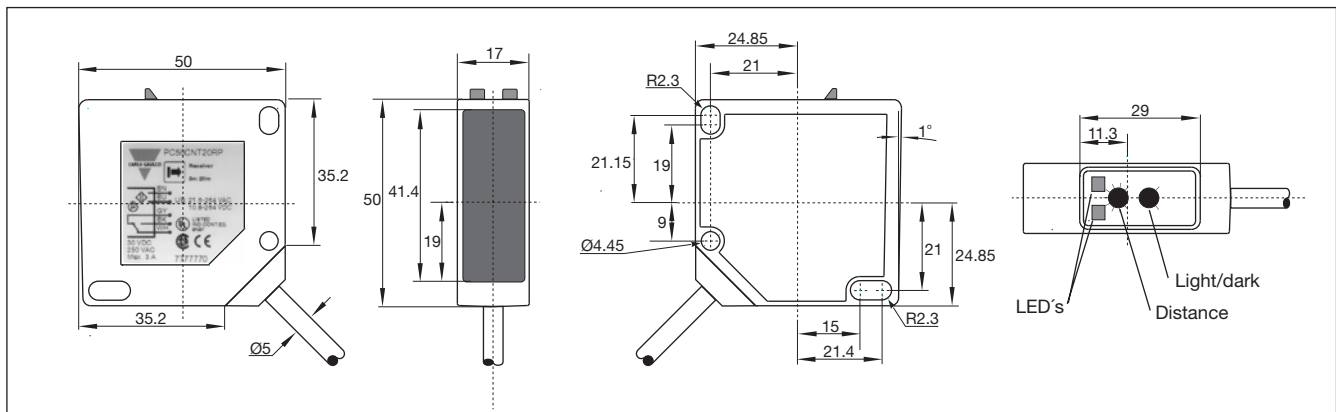
<b>Rated operating distance (S<sub>n</sub>)</b>	Up to 2 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm	<b>Power ON delay (t<sub>v</sub>)</b>	≤ 300 ms
<b>Blind zone</b>	Typ. 10 cm (max. 30 cm)	<b>Output function</b>	Light and dark operation is switch selectable
<b>Sensitivity</b>	Adj. by single-turn pot. meter	<b>Indication function</b>	Output ON Supply ON, signal stability
<b>Temperature drift</b>	≤ 0.5%/°C		LED, yellow LED, green
<b>Hysteresis (H)</b>		<b>Environment</b>	
Differential travel	3-20%	Overvoltage category	II (IEC 60664/60664A; 60947-1)
<b>Rated operational volt. (U<sub>B</sub>)</b>	12 to 240 VDC 24 to 240 VAC, 50 to 60 Hz	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Rated operational power</b>	≤ 2.5 VA (relay ON)	Degree of protection	IP 67 (IEC 60529; 60947-1)
<b>Output</b>		<b>Temperature</b>	
Contact ratings		Operating	-20° to +60°C (-4° to +140°F)
Resistive loads	AC 1 3 A/250 VAC DC 1 3 A/30 VDC (> 10 mA/5 VDC)	Storage	-25° to +80°C (-13° to +176°F)
Mechanical life (typical)	≥ 15 x 10 <sup>6</sup> operations	<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 68-2-6)
Electrical life (typical)	≥ 1 x 10 <sup>5</sup> operations at 3 A/240 VAC	<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 68-2-32)
<b>Protection</b>	Reverse polarity, transients	<b>Rated insulation voltage</b>	250 VAC (rms)
<b>Light source</b>	GaAlAs, LED, 880 nm	<b>Housing material</b>	
<b>Light type</b>	Infrared, modulated	Body	PC/ABS, grey, reinforced
<b>Sensing angle</b>	± 2.2°	Front glass	PC black
<b>Ambient light</b>	Max. 5'000 lux	Mounting bracket	Steel, galvanized
<b>Operating frequency</b>	20 Hz	<b>Connection</b>	
<b>Response time</b>		Cable	PVC, grey, 2 m, 5 x 0.34 mm <sup>2</sup>
OFF-ON (t <sub>ON</sub> )	≤ 20 ms	<b>Weight</b>	110 g
ON-OFF (t <sub>OFF</sub> )	≤ 30 ms	<b>Approvals</b>	UL, CSA
		<b>CE-marking</b>	Yes

## Operation Diagram

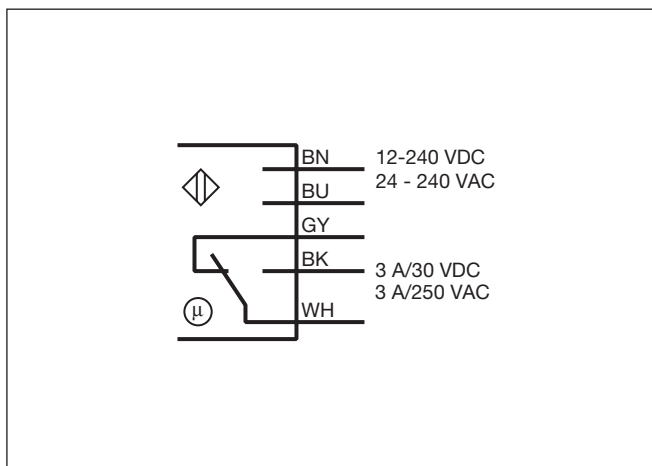
tv = Power ON delay



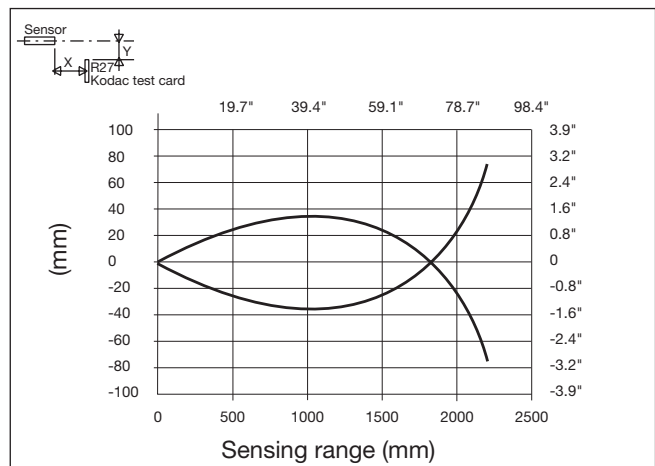
## Dimensions



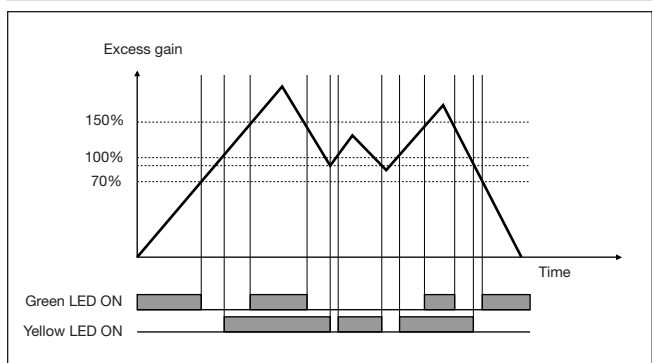
## Wiring Diagram



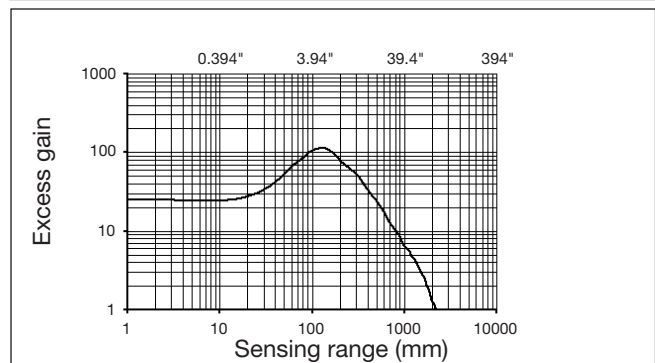
## Detection Diagram



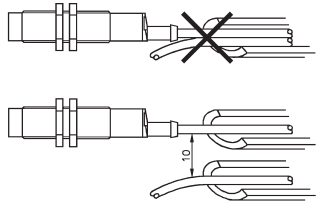
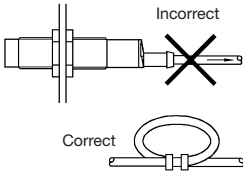
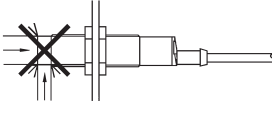
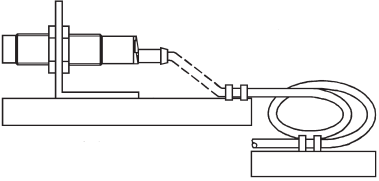
## Signal Stability



## Excess Gain



## Installation Hints

<p>To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p> 	<p>Relief of cable strain</p>  <p>Incorrect</p> <p>Correct</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p>  <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p>
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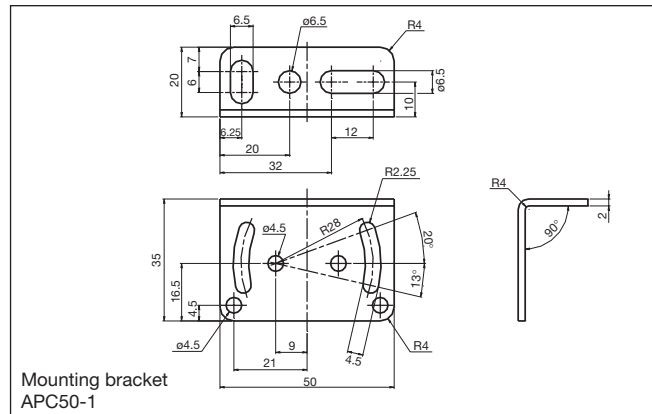
## Delivery Contents

- Photoelectric switch: PC50CND..
- Installation instruction
- Mounting bracket APC50-1
- **Packaging:** Cardboard box

## Accessories

- Screwdriver for adjustment: 77-001

For further information refer to “Accessories”



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